Regarding "Right atrial bypass grafting for central venous obstruction associated with dialysis access: another treatment option"

To the Editors:

The paper by Dr El-Sabrout et al (J Vasc Surg 1999;29:472-8) addresses an important subject that has plagued large referral centers and raises multiple questions.

First, central venous stenosis has been recognized as a common problem associated with catheter hemodialysis as early as two decades ago.[1] It has recently become more prominent, with 38% of patients having temporary catheters and 27% having permanent catheters, according to the 1996 to 1998 Dialysis Outcomes Practice Patterns Study, despite the lowest primary catheter patency rate of 9% at 1 year. Catheter access combined with other types of vascular access has taken a toll of 6% of the estimated $14.6 billion spent on patients with end-stage renal disease in 1996 (1998 US Renal Data System report).[2] Patients who initiate urgent hemodialysis without a permanent access have a 1-year mortality rate of 20% to 30% versus 15% to 20% in patients with stabilized conditions. This increase in mortality rate relates to the risks inherent to the insertion of a central venous catheter for hemodialysis. Furthermore, subclavian vein placement of these catheters should be prohibited because of the likelihood of subclavian vein stenosis, which will hamper future long-term access of the ipsilateral arm. This has prompted the National Kidney Foundation to recommend that: (1) hemodialysis access should be created when the creatinine level is 4.0 mg/dL (glomerular filtration rate, <20 mL/min);[3,4] (2) catheter use should be de-emphasized; and (3) native arteriovenous fistulas should be the access of choice for patients who require dialysis within 6 months, the typical access being described three decades ago.[5]

Second, the therapy of central venous stenosis has been more than deceiving, despite the most sophisticated interventional radiology means, such as angioplasty introduced in 1983[6] and the use of vascular stents.[7] Hence, the current article.

The authors' claim that right atrial bypass grafting is a therapeutic option is not born out by the presentation and is highly controversial. First, only two patients had innominate/superior vena cava obstruction and required a more central bypass graft if repeated angioplasty failed constantly. Incidently, these patients died at 2 and 39 months, respectively, from the procedure. Second, the remaining patients should have undergone axillary vein to jugular vein bypass grafting instead, either directly or with a graft if the opposite site was contemplated for outflow. Jugular vein patency can be assessed easily with noninvasive Doppler scan study or with direct contrast material injection. Conventional upper extremity venogram is not appropriate in delineating jugular vein anatomy. Third, the authors' decision to avoid the internal jugular vein because "PTFE [polytetrafluoroethylene] infection is common in these patients" is contradictory by itself because infection of a right atrial bypass graft would be catastrophic and more difficult to handle than a bypass graft to the jugular vein. Prior literature on the use of native veins, introduced as early as 1976,[8,9] jugular veins,[10,11] or grafts have reported high success rates. Finally, it is hoped that patient 8 did not undergo a left brachial artery to right atrium bypass grafting as printed. This would be difficult to justify, and no one would use the left atrium as the next objective to bypass.

The authors were right to characterize the technique as a procedure of magnitude.

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